

REMARKS/ARGUMENTS

Favorable reconsideration of this application, as presently amended and in light of the following discussion, is respectfully requested.

Claims 15-25 are pending, with Claim 15 amended by the present amendment.

In the outstanding Office Action, the Abstract was objected to; Claim 15 was objection to; Claims 15-17, 20-22 and 25 were rejected under 35 U.S.C. \diamond 103(a) as being unpatentable over Shimotakahara et al. (U.S. Patent No. 6,522,819, hereinafter Shimotakahara); and Claims 18, 19, 23 and 24 were indicated as containing allowable subject matter.

Applicant acknowledges with appreciation the indication of allowable subject matter.

The Abstract and Claim 15 are amended as requested in the outstanding Office Action.

Briefly recapitulating, Claim 15 is directed to a dispersion-shifted fiber having a zero dispersion wavelength that is longer than 1640 nanometer. The fiber also includes a dispersion of -1.0 ps/nm/km to -10.0 ps/nm/km in a wavelength range between 1530 nanometer and 1625 nanometer; a dispersion slope of a positive value less than 0.07 ps/nm²/km in the wavelength range between 1530 nanometer and 1625 nanometer; a polarization mode dispersion of not more than 0.1 ps/(km)^{1/2} at a wavelength of 1550 nanometer; and an effective area of 40-70 μm^2 at the wavelength of 1550 nanometer.

Applicants note that they are uniquely qualified to comment on Shimotakahara as Shimotakahara and the present invention were commonly owned by Applicants and/or under duty of assignment to Applicants at the time the present invention was made. Because Shimotakahara issued after the filing date of the present application's priority document, Shimotakahara is a not reference under 35 U.S.C. § 102(b). Because the application of Shimotakahara was published before the filing date of the present application's priority

document, Shimotakahara is a reference under 35 U.S.C. § 102(a). Thus, the provisions of 35 U.S.C. § 103(c) do not apply.

Shimotakahara describes an optical fiber for forming an optical transmission line suitable for the wavelength division multiplexing transmission by connecting to a positive dispersion optical fiber is provided. Outside a first glass layer (1), a second glass layer (2), a third glass layer (3) and a fourth glass layer (4) are sequentially disposed. The fourth glass layer (4) is to be a reference layer for a standard of a refractive index. A relative refractive index difference of the first glass layer to the reference layer is set 1.6% to 2.6%, inclusive, a relative refractive index difference of the second glass layer is set -0.65% to -0.4%, inclusive, and a relative refractive index difference of the third glass layer is set 0.15% to 0.5%, inclusive.¹

However, contrary to the outstanding Office Action, Shimotakahara does not disclose or suggest a dispersion-shifted fiber having zero dispersion wavelength that is longer than 1640 nanometers. The Office Action points to column 3, lines 20-21 of Shimotakahara. However, this portion of Shimotakahara describes a single mode optical fiber having zero dispersion and a wavelength band of 1 to 3 μm , more specifically a wave band of 1.31 μm , but it does not disclose Applicant's claimed zero dispersion wavelength that is longer than 1640 nanometers.

Also contrary to the Office Action, Shimotakahara does not disclose or suggest a dispersion of -1.0 ps/nm/km to -10.0 ps/nm/km in a wavelength range between 1530 nanometers and 1625 nanometers. Instead Shimotakahara discloses a dispersion of -100 ps/nm/km and a wavelength of 1590 nanometers.²

Also, contrary to the Office Action Shimotakahara does not disclose or suggest a dispersion slope of a positive value less than 0.07 ps/nm²/km. Instead, Shimotakahara

¹ Shimotakahara, Abstract

² Shimotakahara column 5, lines 9-10.

discloses a dispersion slope of a positive value less than $0.07 \text{ ps/nm}^2/\text{km}$ and a wavelength range between 1530 nanometers and 1625 nanometers.

Also, contrary to the Office Action Shimotakahara does not disclose or suggest a polarization mode dispersion of not more than $0.1 \text{ ps}/(\text{km})^{1/2}$ at a wavelength of 1550 nm. Instead, Shimotakahara discloses a polarization mode dispersion of $0.20 \text{ ps}/(\text{km})^{1/2}$ or less.³

MPEP §706.02(j) notes that to establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. Also, the teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). Without addressing the first two prongs of the test of obviousness, Applicants submit that the Official Action does not present a *prima facie* case of obviousness because Shimotakahara fails to disclose all the features of Applicants' claimed invention.

³ Shimotakahara column 5, lines 14-15.

Accordingly, in view of the present amendment and in light of the previous discussion, Applicant respectfully submits that the present application is in condition for allowance and respectfully requests a early and favorable action to that effect.

Respectfully submitted,

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A handwritten signature in black ink, appearing to read "Bradley D. Lytle", written over a horizontal line.

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